

**What is claimed is:**

1. A dental capsule providing reduced extrusion forces comprising:

a body portion having a substantially constant inside diameter and a body portion axis;

a transition portion, adjacent said body portion, having a reducing inside diameter and a transition portion axis, said body portion axis intersecting said transition portion axis forming a body-transition angle; and

a discharge portion, adjacent said transition portion, having a discharge portion axis, said transition portion axis intersecting said discharge portion axis forming a transition-discharge angle,

whereby high viscosity dental material is capable of being extruded with reduced extrusion force and without damaging the high viscosity dental material.

2. A dental capsule as in claim 1 wherein:

the body-transition angle ranges between twenty-five and thirty-five degrees; and

the transition-discharge angle ranges between fifteen and twenty-five degrees.

3. A dental capsule as in claim 1 wherein:  
the body-transition angle comprises substantially  
thirty degrees; and  
the transition-discharge angle comprises substantially  
nineteen and one-half degrees.

4. A dental capsule as in claim 1 further comprising:  
a flange attached to said body portion.

5. A dental capsule as in claim 1 further comprising:  
a flexible piston.

6. A dental capsule as in claim 5 wherein:  
said flexible piston is sufficiently flexible to  
negotiate around said transition portion.

7. A dental capsule as in claim 6 wherein:  
said flexible piston comprises a cylindrical portion  
having a longitudinal length and a conical portion.

8. A dental capsule as in claim 7 further comprising:

a venting groove extending from said flange into said body portion the longitudinal length of the cylindrical portion of said flexible piston.

9. A dental capsule as in claim 1 wherein:  
the dental capsule is made of a flexible material.

10. A dental capsule as in claim 1 further comprising:  
a high viscosity dental material placed within said body portion.

11. A dental capsule as in claim 1 further comprising:  
a sealing cap place on said discharge portion.

12. A dental capsule providing reduced extrusion forces for use with a high viscosity dental material comprising:  
a body portion having a substantially constant inside diameter and a body portion axis;  
a transition portion, adjacent said body portion, having a reducing inside diameter and a transition portion

axis, said body portion axis intersecting said transition portion axis forming a body-transition angle, the body-transition angle ranging between twenty-five and thirty-five degrees; and

a discharge portion, adjacent said transition portion, having a discharge portion axis, said transition portion axis intersecting said discharge portion axis forming a transition-discharge angle, the transition-discharge angle ranging between fifteen and twenty-five degrees,

whereby high viscosity dental material is capable of being extruded with reduced extrusion force and without damaging the high viscosity dental material.

13. A dental capsule providing reduced extrusion forces for use with a high viscosity dental material as in claim 12 further comprising:

a flexible piston, said flexible piston comprising a cylindrical portion having a longitudinal length and a conical portion; and

a venting groove extending from said flange into said body portion the longitudinal length of the cylindrical portion of said flexible piston.

14. A dental capsule providing reduced extrusion forces for use with a high viscosity dental material as in claim 12 wherein:

the body-transition angle comprises substantially thirty degrees; and

the transition-discharge angle comprises substantially nineteen and one-half degrees.

15. A dental capsule providing reduced extrusion forces for use with a high viscosity dental material comprising:

a body portion having a substantially constant inside diameter and a body portion axis;

a high viscosity dental material placed within said body portion;

a flange attached to said body portion;

a transition portion, adjacent said body portion, having a reducing inside diameter and a transition portion axis, said body portion axis intersecting said transition portion axis forming a body-transition angle, the body-transition angle ranging between twenty-five and thirty-five degrees;

a discharge portion, adjacent said transition portion, having a discharge portion axis, said transition portion axis intersecting said discharge portion axis forming a transition-discharge angle, the transition-discharge angle ranging between fifteen and twenty-five degrees;

a flexible piston, said flexible piston comprising a cylindrical portion having a longitudinal length and a conical portion;

a venting groove extending from said flange into said body portion the longitudinal length of the cylindrical portion of said flexible piston; and

a cap sealing said discharge portion,

whereby high viscosity dental material is capable of being extruded with reduced extrusion force and without damaging the high viscosity dental material.

16. A dental capsule for completely extruding a high viscosity dental material comprising:

a cylindrical body portion made of a flexible material;

a flange adjacent one end of said cylindrical body portion;

a curved discharge portion made of a flexible material adjacent another end of said cylindrical body portion, said curved discharge portion having a reducing diameter; and

a piston made of a flexible material comprising a cylindrical portion having a longitudinal length and a conical portion, the conical portion having a smallest diameter that is larger than a smallest diameter of the reducing diameter of said curved discharge portion,

whereby said piston negotiates said curved discharge portion with reduced extrusion force and extrudes substantial all of the high viscosity dental material and said curved discharge portion and said piston are caused to change shape.

17. A dental capsule for completely extruding a high viscosity dental material as in claim 16 further comprising:

a venting groove extending from said flange into said body portion the longitudinal length of the cylindrical portion of said flexible piston;

18. A dental capsule for completely extruding a high viscosity dental material as in claim 17 further comprising:

a high viscosity dental material placed within said cylindrical body portion.